

AMENDMENT TO THE CLAIMS

Please amend the claims as follows. This listing of claims will replace all prior versions and listings of the claims.

1. (Currently Amended) An apparatus for use in providing RF shielding for a nuclear magnetic resonance (NMR) apparatus comprising a substantially cylindrical NMR magnet having a patient-end surface, a service end and a cryostat with a radio-opaque portion RF shielding, the apparatus comprising:

a radio-opaque holder comprising RF shielding and configured for forming a substantially complete RF shield when the holder is adjoined to the cavity of a magnet associated with magnet RF shielding. having a rigid surface defining an opening at a magnet end of the holder that substantially matches an opening defined by the patient-end surface of the NMR magnet, the rigid surface of the holder configured to abut and adjoin to the patient-end surface of the NMR magnet to form an electrical coupling between the holder and the radio-opaque portion of the cryostat;

wherein, when the radio-opaque portion of the cryostat is electrically coupled to the holder and to a radio-opaque covering adjoining the service end of the NMR magnet, the holder, the radio-opaque portion of the cryostat and the radi-opaque covering form a substantially complete and substantially continuous RF shield operative to prevent RF signals from interfering with an NMR procedure conducted using the NMR magnet.

2. (Original) The apparatus of claim 1, wherein the holder comprises a bottom portion comprising RF shielding.

3. (Original) The apparatus of claim 2, wherein the holder further comprises a canopy comprising RF shielding.

4. (Original) The apparatus of claim 2, wherein the holder further comprises a patient end cap comprising RF shielding.

5. (Original) The apparatus of claim 3, wherein the canopy removably attaches to the bottom portion.

6. (Original) The apparatus of claim 2, wherein the bottom portion comprises apertures.

7. (Original) The apparatus of claim 4, wherein the patient end cap comprises apertures.

8. (Original) The apparatus of claim 1, further comprising a positioning means attached to the holder.

9. (Original) The apparatus of claim 8, wherein the positioning means comprises a support configured to support the holder and means for locomotion.

10. (Original) The apparatus of claim 9, wherein the means for locomotion comprises wheels.

11. (Original) The apparatus of claim 9, wherein the means for locomotion comprises rollers.

12. (Original) The apparatus of claim 1, further comprising a patient support unit.

13. (Original) The apparatus of claim 12, wherein the patient support unit comprises an RF transmitter antenna and an RF receiver antenna.

14. (Original) The apparatus of claim 12, wherein the patient support unit comprises an RF coil.

15. (Original) The apparatus of claim 12, wherein the patient support unit comprises a support configured to hold an animal.

16. (Original) The apparatus of claim 12, wherein the patient support unit comprises a support configured to hold a human.

17. (Original) The apparatus of claim 15, wherein the support is configured to hold an animal in an inverted position.

18. (Original) The apparatus of claim 17, wherein a cross section of the support is configured to substantially match the curvature of an animal's spine.

19. (Original) The apparatus of claim 18, wherein a cross section of the support is substantially U-shaped.

20. (Original) The apparatus of claim 18, wherein a cross section of the support is substantially V-shaped.

21. (Original) The apparatus of claim 18, wherein the patient support unit comprises an RF transmitter antenna and an RF receiver antenna.

22. (Original) The apparatus of claim 18, wherein the patient support unit comprises an RF coil.

23. (Original) The apparatus of claim 22, wherein the RF coil comprises a non-planar coil.

24. (Original) The apparatus of claim 23, wherein a cross section of the RF coil substantially matches a cross section of the support.

25. (Original) The apparatus of claim 23, wherein the RF coil comprises a plurality of loops.

26. (Original) The apparatus of claim 22, wherein the RF coil comprises an upper RF coil connected to a lower RF coil.

27. (Original) The apparatus of claim 22, wherein the RF coil is movable.

28. (Original) The apparatus of claim 15, wherein the patient support unit comprises straps for holding an animal.

29. (New) The apparatus of claim 1, wherein the holder is configured to hold and support the body of an animal patient.

30. (New) The apparatus of claim 1, wherein the magnet is configured to remain stationary while a patient is moved wholly or partly into the cavity of the magnet.

31. (New) The apparatus of claim 1, wherein the system further comprises the NMR magnet and ancillary coils and magnets associated with a magnetic resonance process that

are located inside the NMR magnet, wherein the RF shield is configured to enclose all of the ancillary coils and magnets so that there are no ancillary coils and magnets outside the RF shield.

32. (New) The apparatus of claim 1, wherein the opening defined by the rigid surface of the magnet end of the holder and the substantially matching opening defined by the patient-end surface of the magnet have substantially circular shapes.

33. (New) The apparatus of claim 1, wherein the RF shield is configured to prevent all RF signals that could interfere with a nuclear magnetic resonance measurement from passing from an area outside the RF shield to an area inside the RF shield.

34. (New) The apparatus of claim 1, wherein the holder is configured to abut and adjoin to the patient end of the magnet so that there are no gaps between the holder and the patient end of the magnet through which could pass an RF signal that could materially interfere with a nuclear magnetic resonance measurement occurring inside the RF shield.